

Bellwork: 12/4/12

Factor each expression:

1)  $\frac{6x^2y^2}{3xy} - \frac{9xy^2}{3xy} + \frac{18x^2y}{3xy}$

$3xy(2xy - 3y + 6x)$

2)  $-12x^3 + 8x^2 - 4x$

$-4x(3x^2 - 2x + 1)$

Factoring regular quadratic expressions with a=1

1)  $x^2 + 7x + 10$  <sup>add</sup> <sup>multiply</sup>

$(x+5)(x+2)$

or  $(x+2)(x+5)$

$x^2 + 5x + 2x + 10$

$x^2 + 7x + 10$

2)  $x^2 - 5x + 4$

$(x-4)(x-1)$

check  $x^2 - 1x - 4x + 4$   
 $x^2 - 5x + 4$

$$3) x^2 - 4x - 12$$

$$(x+2)(x-6)$$

$$x^2 - 6x + 2x - 12$$

$$\checkmark x^2 - 4x - 12$$

$$4) x^2 + 13x - 48$$

$$(x+16)(x-3)$$

$$x^2 - 3x + 16x - 48$$

$$x^2 + 13x - 48$$

check

48	
1	48
2	24
-3	16
4	12
6	8

$$5) x^2 - 9x - 36$$

$$(x+3)(x-12)$$

$$6) x^2 + 22x + 72$$

$$(x+18)(x+4)$$

Factoring regular quadratic expressions with a GCF:

7)  $-x^2 + 13x - 12$

$-1(x^2 - 13x + 12)$

$-1(x-1)(x-12)$

8)  $-x^2 - 9x - 20$

$-1(x^2 + 9x + 20)$

$-1(x+5)(x+4)$

9)  $2x^2 - 22x + 60$

$2(x^2 - 11x + 30)$

$2(x-5)(x-6)$

10)  $-2x^2 + 28x + 64$

$-2(x^2 - 14x - 32)$

$-2(x+2)(x-16)$

$$\begin{array}{r|l} 32 & \\ \hline 1 & 32 \\ 2 & 16 \\ 4 & 8 \end{array}$$

**Homework: pg 221 #14-31 all**